

LETRASET PRINTPAK

IBM Data Processing

Machine Functions

Preface

This booklet describes, in simplified form, the variety of functions performed by IBM machines and systems in all kinds of accounting, statistical, data-transfer, and computation operations. IBM products perform a long list of functions, such as:

arranging	fling
balancing	listing
checking	posting
coding	printing
comparing	proving
computing	punching
converting	reading
copying	searching
counting	selecting
document writing	sorting
duplicating	summarizing

For uniformity in processing the great variety of sizes, contents, and arrangements of records, information is usually transcribed into the IBM punched card. The punched card is one of the vehicles through which information is introduced into the machine or system. Other data-recording media are magnetic tape and punched paper tape. More recently introduced are systems that process data directly from printed paper documents by magnetic-character reading and optical-character reading.

A quick reference guide to IBM data processing equipment is also included.

MAJOR REVISION (1963)

This edition, 224-8208-5, updates but does not obsolete, 224-8208-4.

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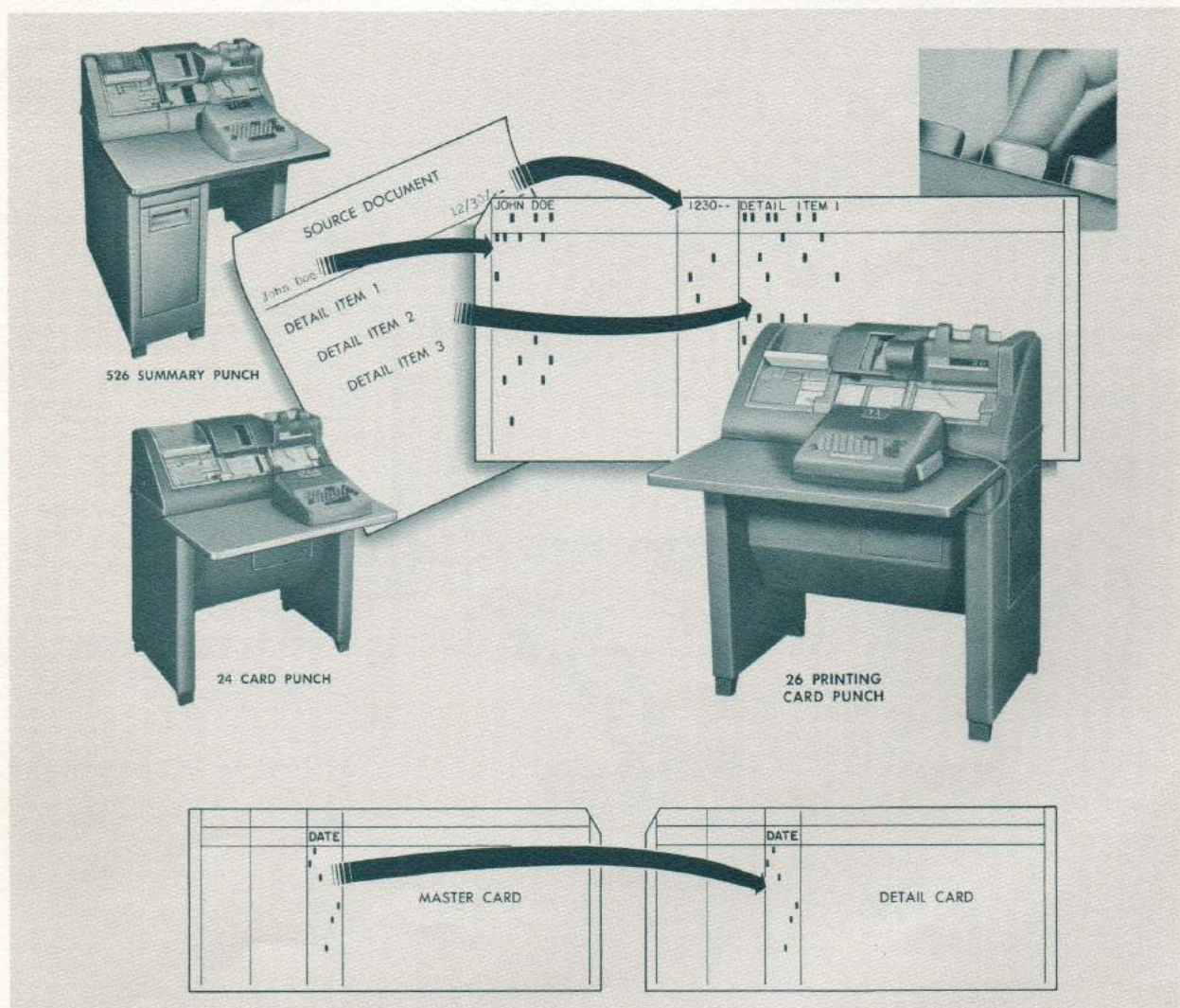
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Card punching is the basic method of converting source data into IBM punched cards. The operator reads a source document and presses the keys of the keyboard to punch the cards. The machine feeds, positions, and ejects the card automatically.

The operation is similar to typing and other key-driven operations. A printing card punch automatically interprets the punched information and prints it at the top of the card.

Duplicating is the automatic punching of the repetitive information from the preceding card into the card presently being punched. Instead of pressing keys repetitively for common information, the operator punches it in only the first card of each group. The card punch automatically punches it into the remaining cards of the group. This reduces work per card, insures consistency of common data, and increases the productivity of the operator.

Card Punching and Duplicating

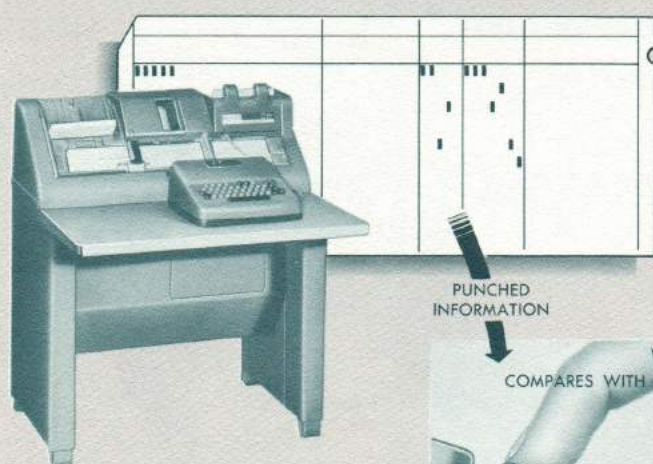


Card Verifying

Card verifying is simply a means of checking the accuracy of the original keypunching. A second operator verifies the original punching by pressing the keys of a verifier while reading from the same source data. The machine compares the key pressed with the hole already punched in the card. A difference causes the machine to stop, indicating a discrepancy between the two operations.

A notch in the upper right edge of the card indicates that it has been keypunched and verified correctly. A notch directly above a column signifies that the punching of that column is in error.

This is basically the same type of function as typing, or other key-driven operations.

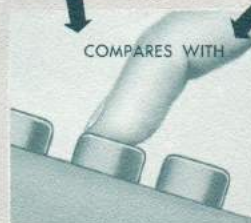


56 CARD VERIFIER

PUNCHED
INFORMATION

INFORMATION
READ

COMPARES WITH



LEE-KLED, Inc. Index, N. Y.			
INVOICE			
To.. Rankin File Co.		Express Ppd.	
Sequence, Ohio		2% 10 Days Net 30	
5 gr.	#2 Wood Handles equipped with Brass Ferrules	4.29	21.45
10 doz.	Brass Washers		

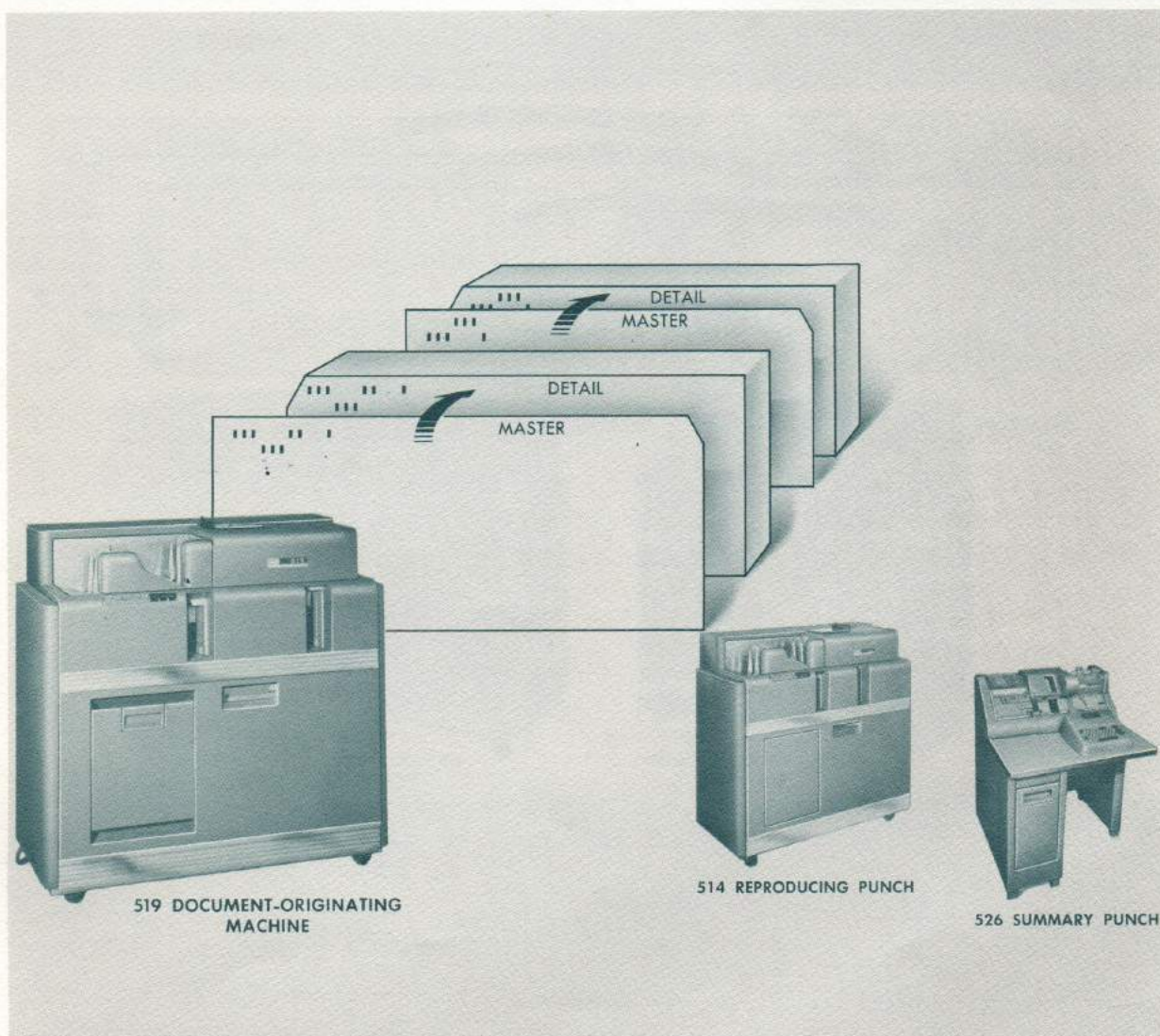
Gangpunching is the automatic copying of punched information from a master card into one or more detail cards that follow it.

In single master-card gangpunching, one master card precedes all detail cards to be punched with the same information.

Where information changes from one group of cards to the next, interspersed gangpunching methods may be used. A master card precedes each group of detail cards. Information in the master card is automatically selected for punching into all following detail cards until a new master is read. The punching pattern then changes to conform with the new master.

Gangpunching can be performed separately or in combination with reproducing and summary punching for both alphabetic and numeric information.

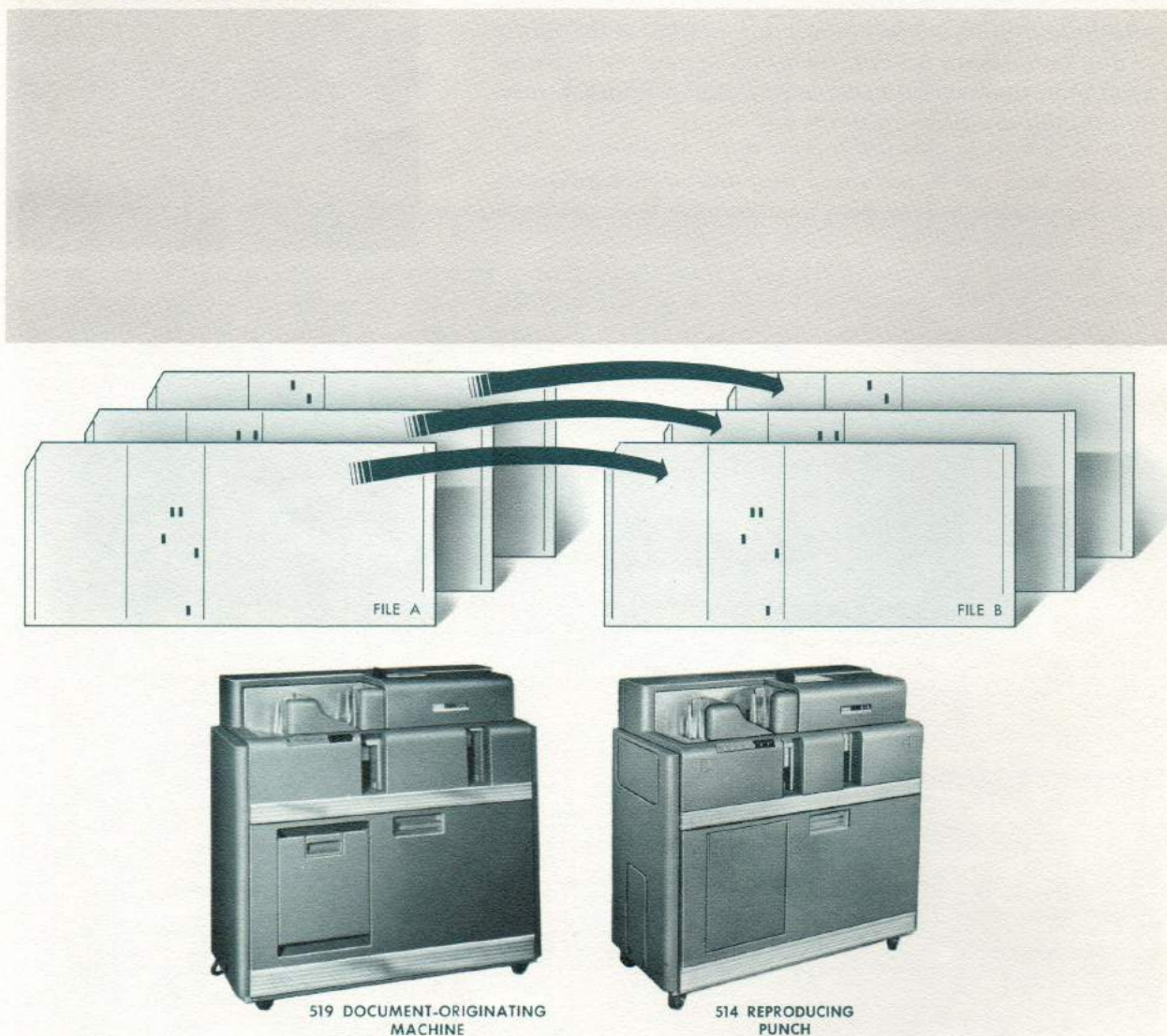
Gangpunching



Reproducing

Reproducing from one card to another is like copying from one record to another. Information from one set of punched source cards is automatically punched into another set of cards. The two sets of cards are fed through the machine at the same time.

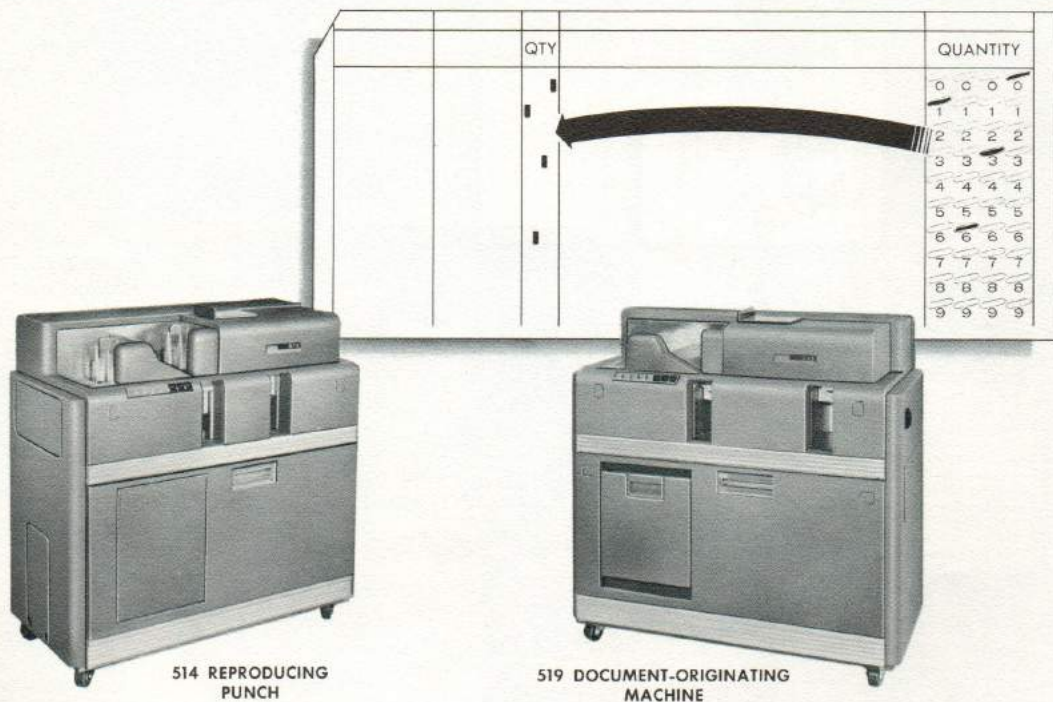
The comparing feature proves agreement between originals and reproductions. Differences are automatically indicated.



Mark-sensed punching is the automatic punching of a card by means of electrically conductive marks made on the card with a special pencil.

Thus, original facts may be recorded anywhere — in the office, plant or field, by workmen, timekeepers or field workers — and these facts are translated directly into punched-hole form.

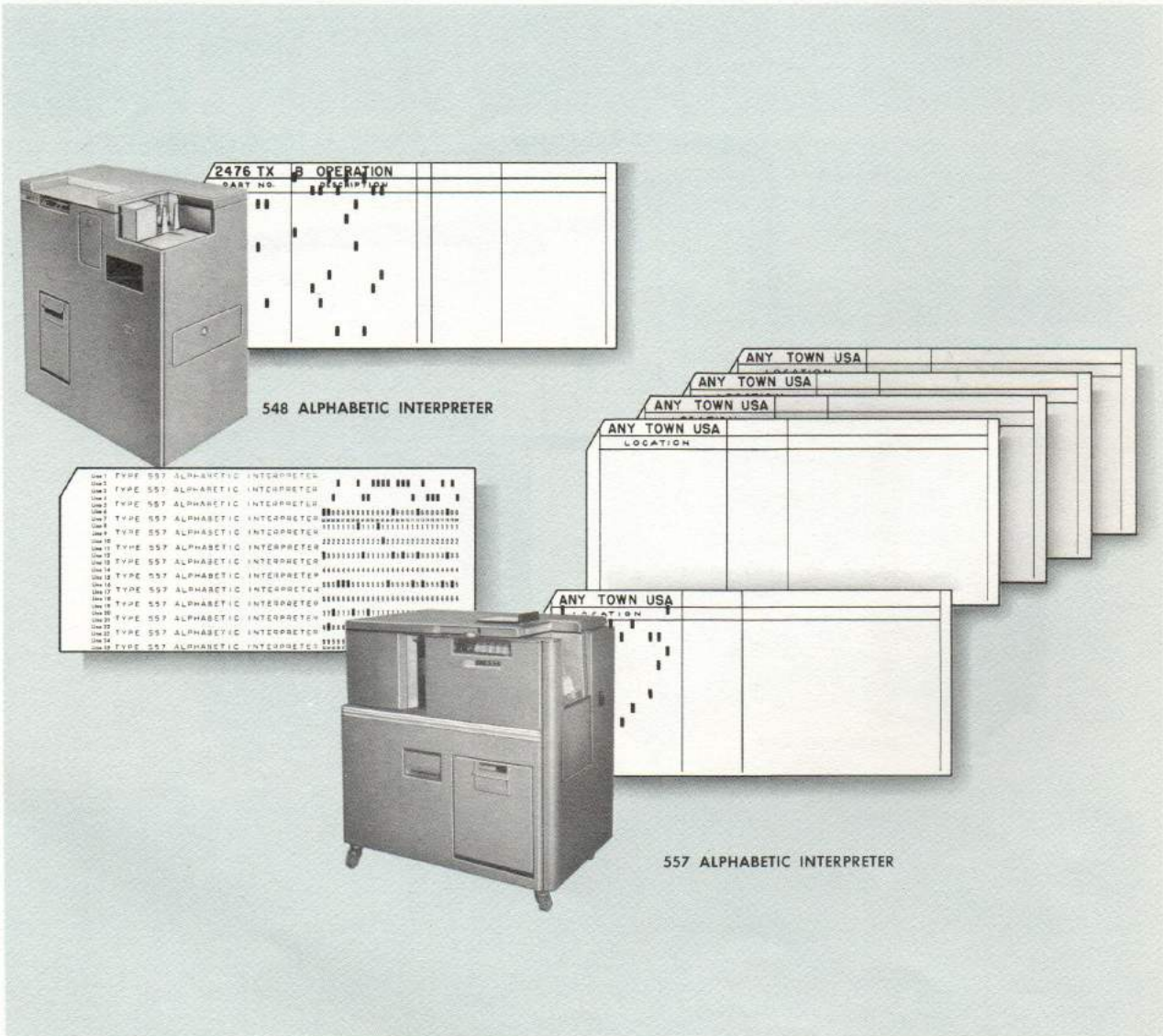
Mark-Sensed Punching



Interpreting

Alphabetic or numeric information can be printed in many different positions on the same card from which it is read. Common data can be repetitively printed on a group of detail cards from punched information on a master card.

Interpreting is advantageous when punched cards are used as documents on which additional information is written or marked, or wherever reference to filing operations is involved.

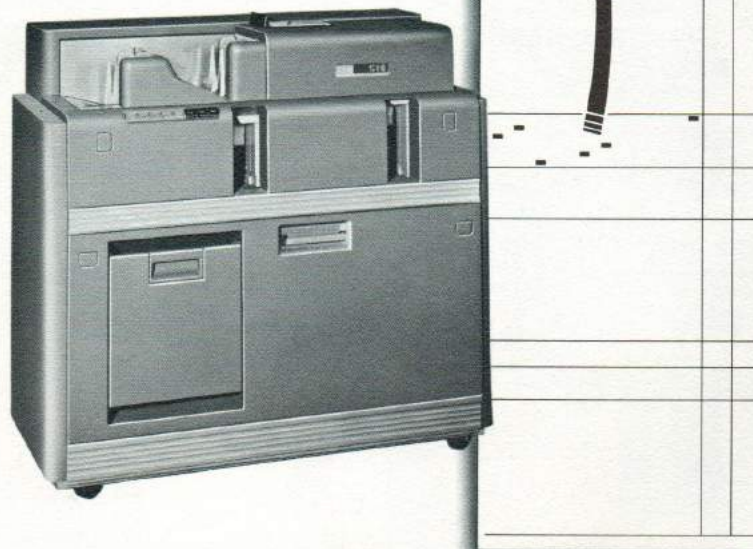


End printing converts punched information into bold printing across the end of the card simultaneously with gangpunching, summary punching, reproducing, and mark-sensed punching. This is similar to interpreting and makes possible quick reference to the card.

Cards are printed in this manner for use in prepunched files where cards are stored on end, or in attendance-card racks for convenient reference and selection.

End Printing

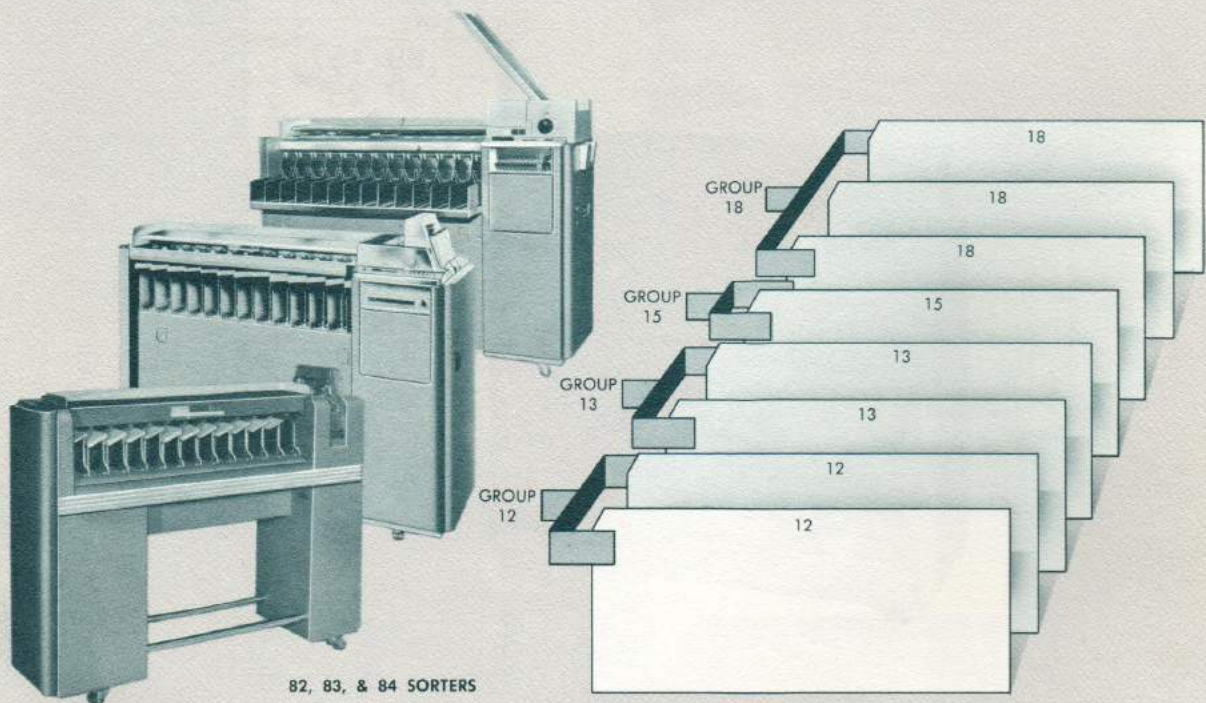
519 DOCUMENT-ORIGINATING
MACHINE



Sorting

Sorting is the process of grouping cards in numeric or alphabetic sequence according to any classification punched in them. To group cards by account, for instance, cards are sorted into account sequence. This makes possible summarizing the cards by account.

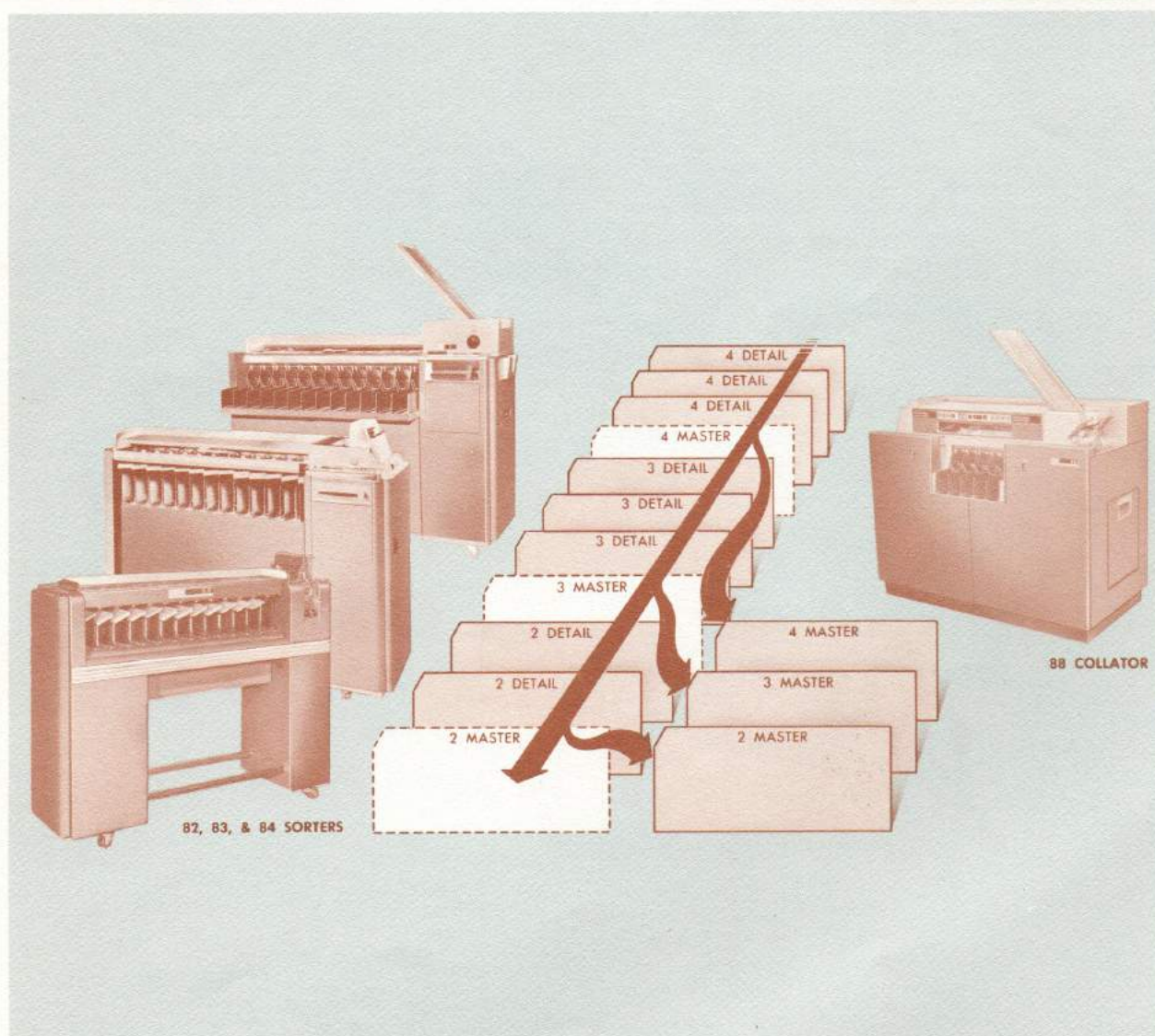
A fast, automatic machine process thus is provided for arranging cards for the preparation of various reports — all originating from the same cards, but each requiring a different sequence or grouping of information.



Selecting is the function of pulling from a mass of data, certain items that require special attention. Selection of individual cards is accomplished automatically by either the sorter or collator, according to the type of selection. Typical selections are:

- Cards punched with specific digits
- Certain types of cards for a specific date
- All cards containing a specific number
- All cards higher than a specific number
- All cards lower than a specific number
- Cards between two specific numbers
- First card of each group
- Last card of each group
- Unmatched cards
- Cards out of sequence

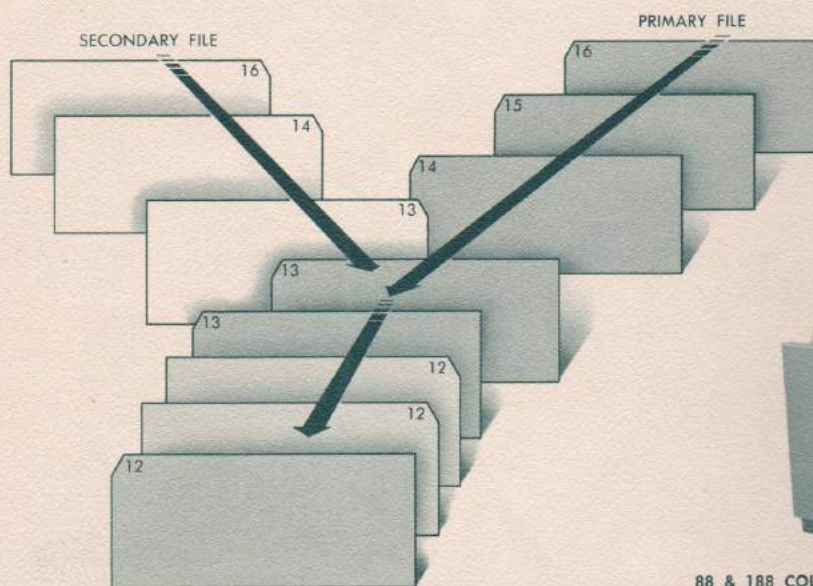
Selecting



Merging

Merging is the combining of two sets of punched cards into one set of given sequence. Both files of cards must be in the same sequence before they are merged.

This function makes possible automatic filing of new cards into an existing file of cards. It is a faster method than sorting to use in placing related cards together.

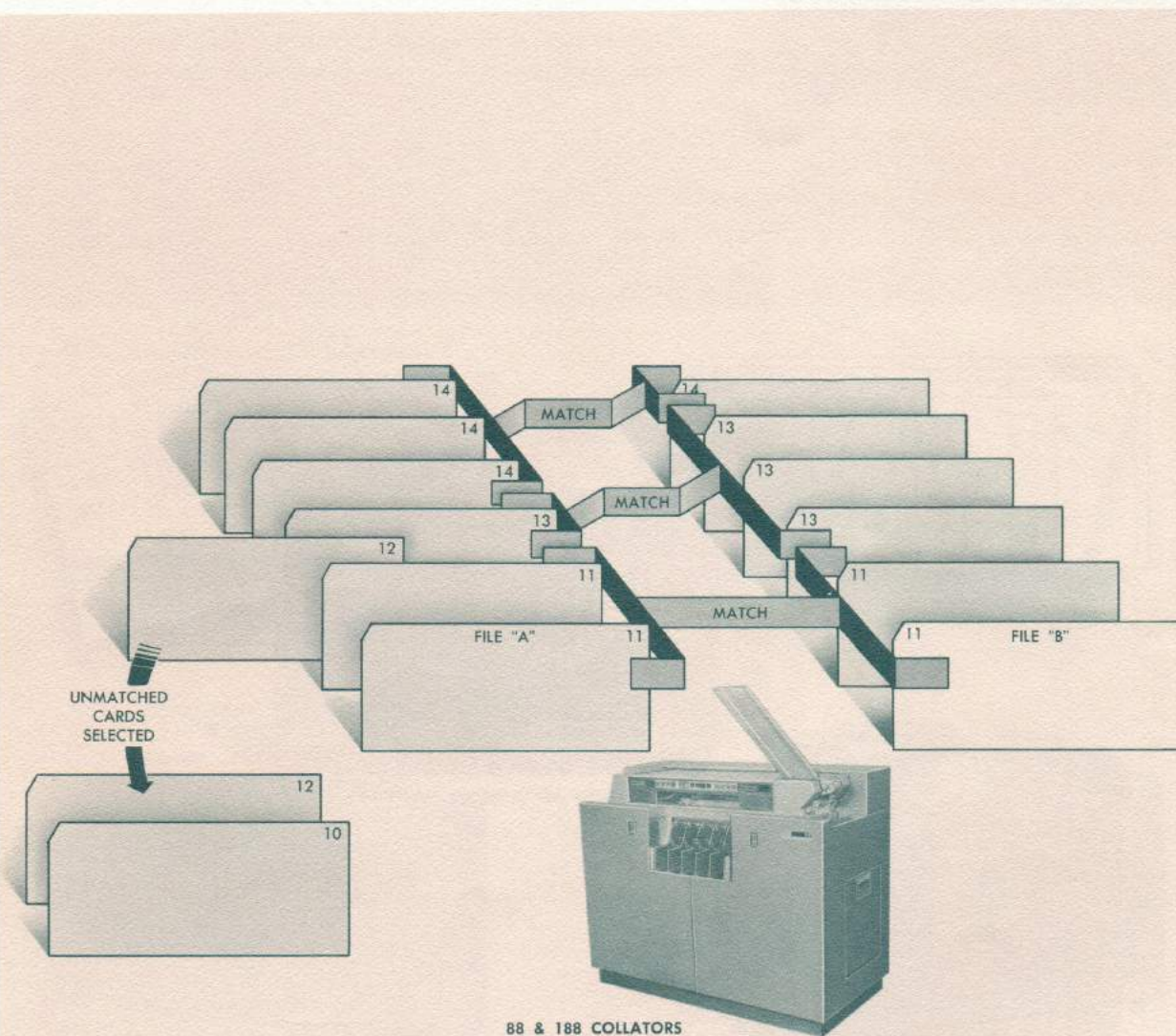


88 & 188 COLLATORS

Matching is a checking function used to check the agreement between two sets of cards. Groups of cards in one file are compared with similar groups in a second file. Unmatched cards or groups of cards in either file may be selected or separated from the files.

This function is frequently performed with merging.

Matching

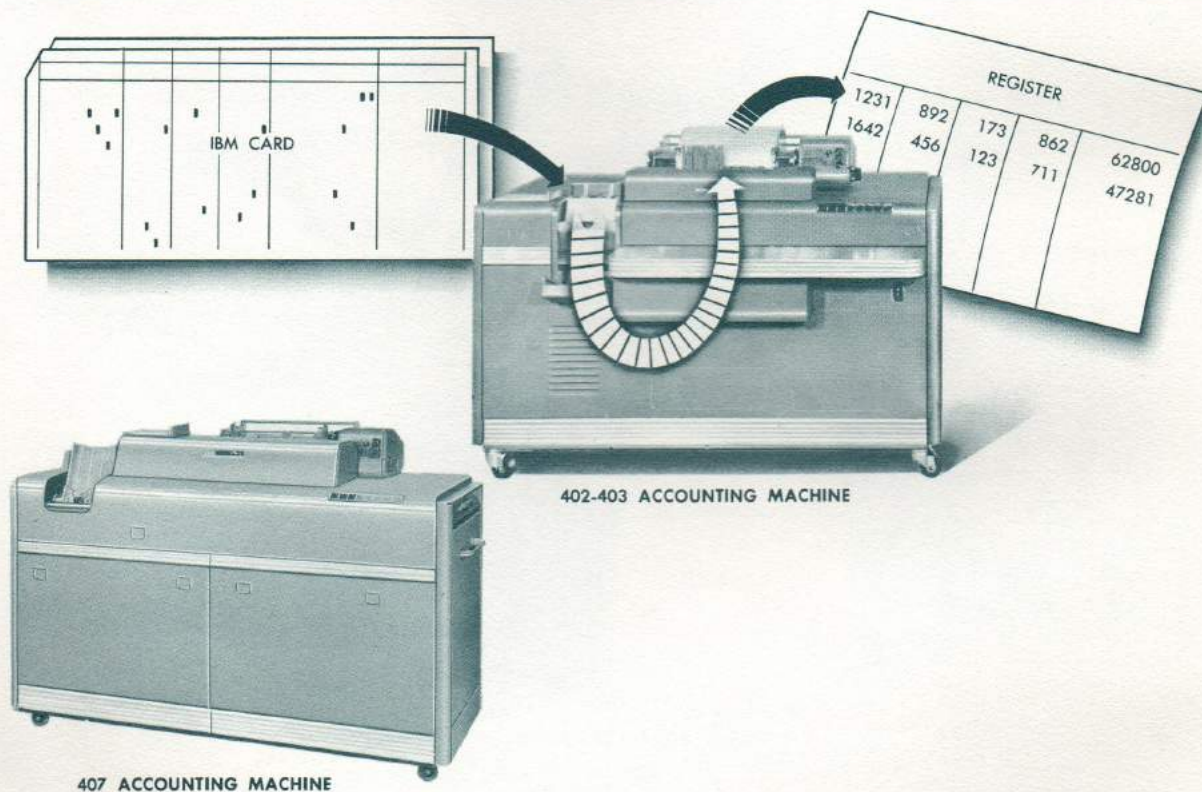


88 & 188 COLLATORS

Detail Printing

Detail printing is the printing of information from each card as the card passes through the machine. The function is used to prepare reports that show complete detail about each transaction.

During this listing operation, the machine adds, subtracts, cross-adds or cross-subtracts and prints many combinations of totals.

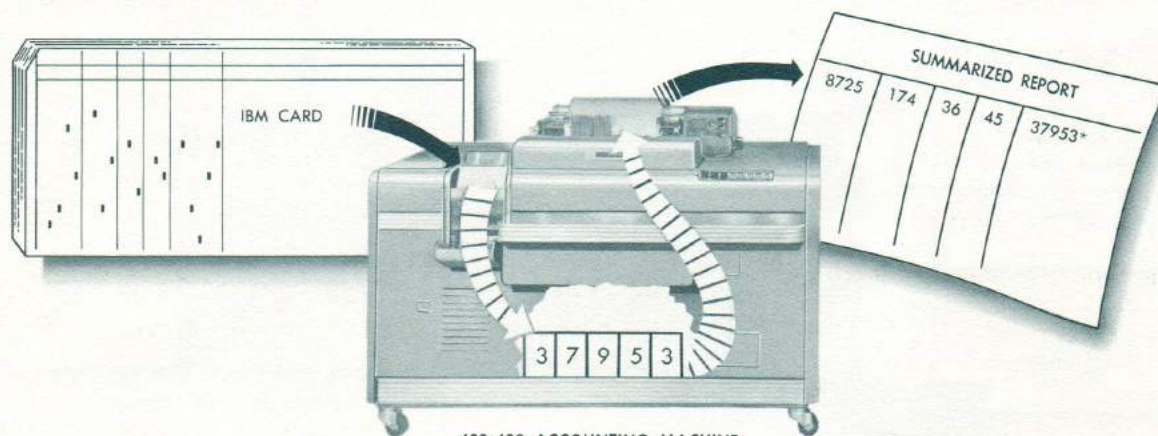


Group printing is the accounting-machine function of summarizing groups of cards and printing the totals on a report. Totals may involve adding, subtracting, or crossfooting.

Information read from punched cards is entered into counter units. At the end of each group of cards, the totals are read out of the counters and printed on the report.

This function is used in preparing all types of reports requiring summarized totals. Complete descriptive information identifies all totals.

Group Printing



402-403 ACCOUNTING MACHINE



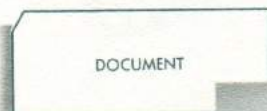
407 ACCOUNTING MACHINE



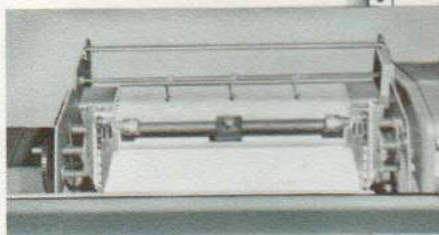
108 CARD PROVING MACHINE

Form Feeding

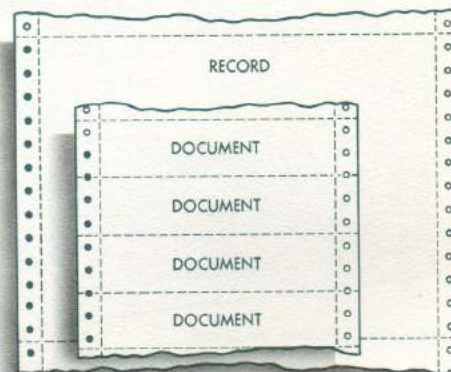
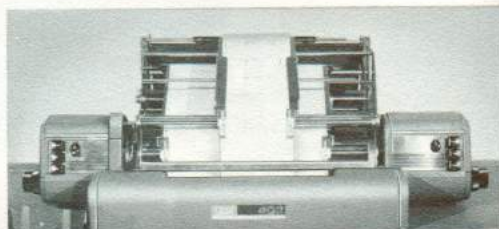
Form feeding is the rapid, accurate positioning of reports and documents on which accounting-machine results are printed. The tape-controlled automatic carriages feed various sizes and combinations of continuous forms (registers, reports, card and paper checks) and single forms (ledger sheets, envelopes, IBM cards). All carriages control feeding within each form, as well as form-to-form ejection.



402-403 ACCOUNTING MACHINE BILL FEED



407 ACCOUNTING MACHINE CARRIAGE



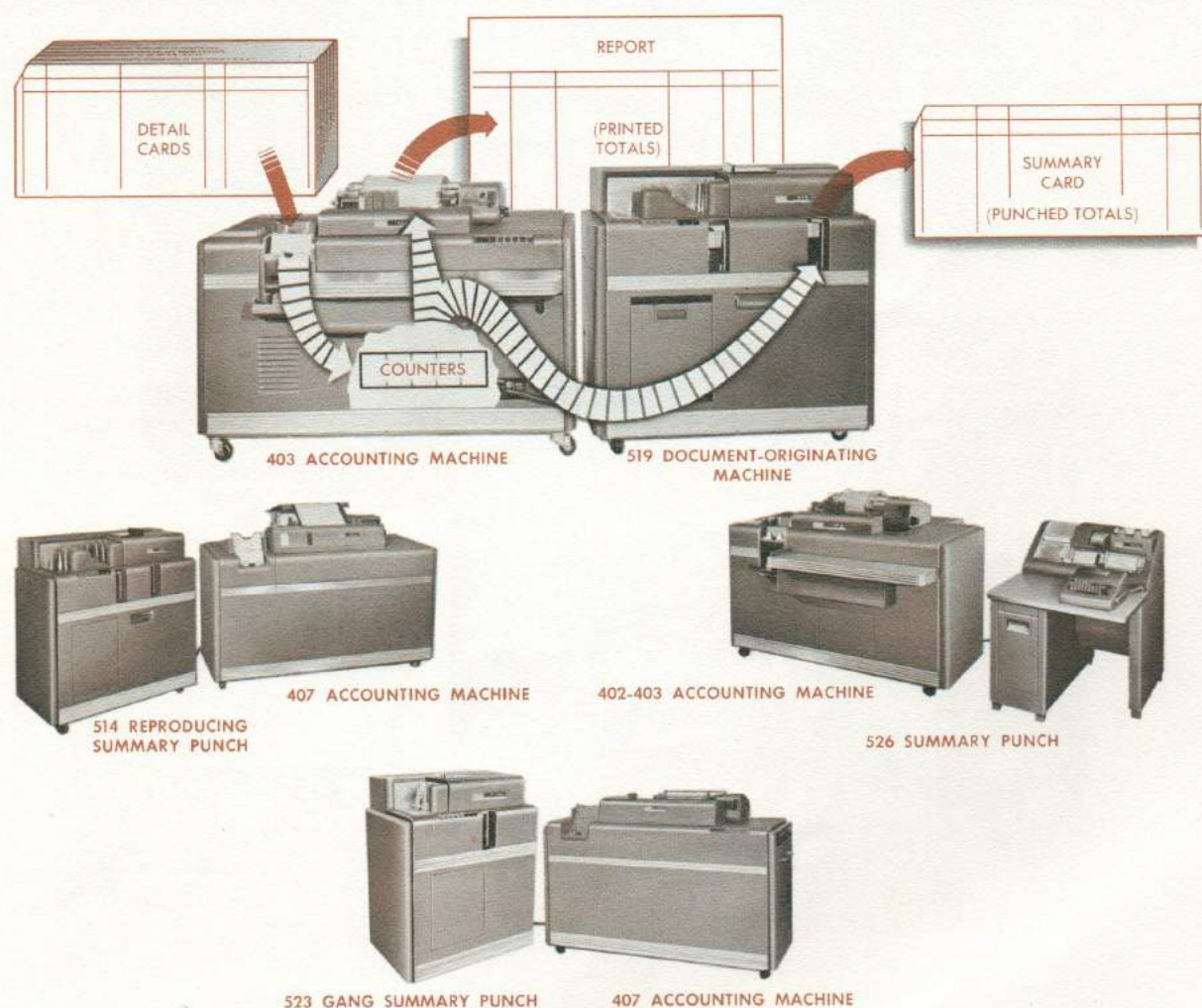
402-403 ACCOUNTING MACHINE DUAL-FEED CARRIAGE

Summary punching is the automatic converting into punched-hole form of information developed by the accounting machine. Summary punching is used for two purposes:

1. To carry balance figures forward. To do this, it is necessary only to include the previous total-to-date card with the current card or cards, and, while a current report is being run, to summary-punch new balance-to-date cards. These are saved for the next balance-to-date operation when the process is repeated.

2. To reduce card volume and carry summary data. Summary cards reduce peak-load periods because of accumulated card volume, and can be used as entries to general ledger accounting.

Summary Punching

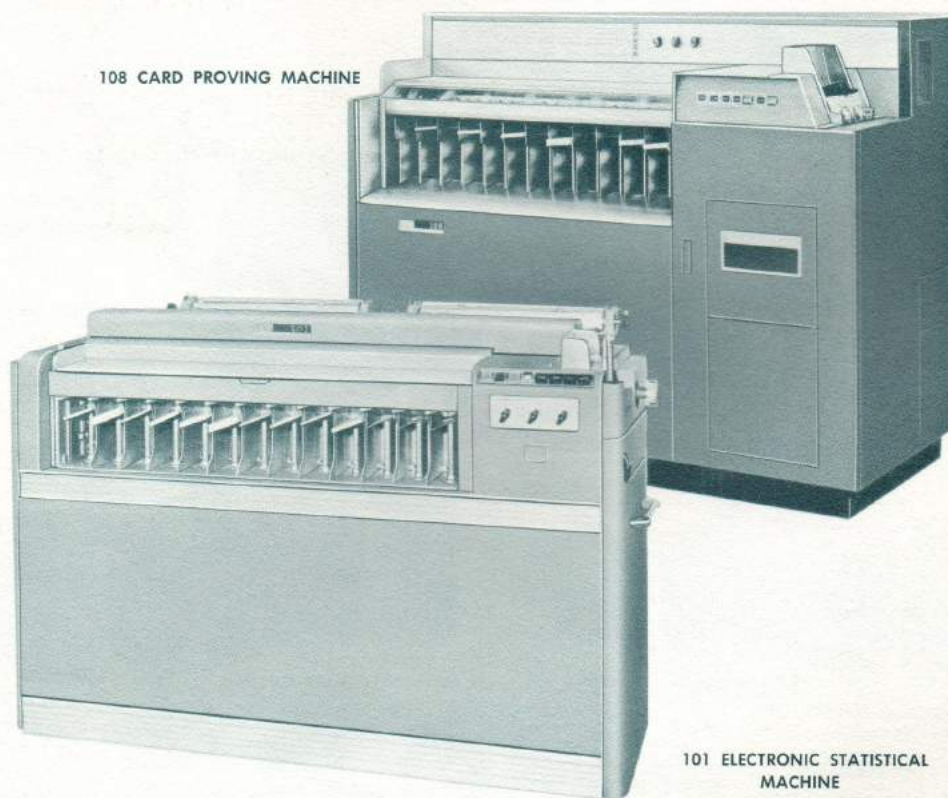


Card Proving

Card proving is essential to maintaining the operation of a system at full speed and at maximum capacity with a minimum of manual intervention. Proving punched-card data before entry into a system substantially reduces error and correction time costs.

Proving equipment performs operations such as high-speed sorting, editing, sequence checking, adding, subtracting, total transferring, crossfooting, and balance checking.

108 CARD PROVING MACHINE

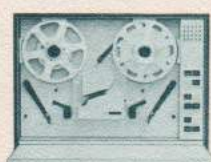


101 ELECTRONIC STATISTICAL
MACHINE

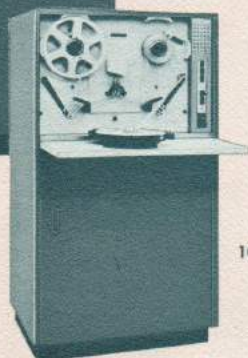
Converting coded information from one form to another facilitates a flexible and wide range of operations in data communications, as well as data processing.

Conversion equipment makes data readily adaptable to the many input and output components of the various processing systems. It also provides a means of transmitting information appearing on original documents at one location to another location where it is needed in any of several forms such as punched cards, punched tape, or magnetic tape.

Converting



1012 TAPE PUNCH



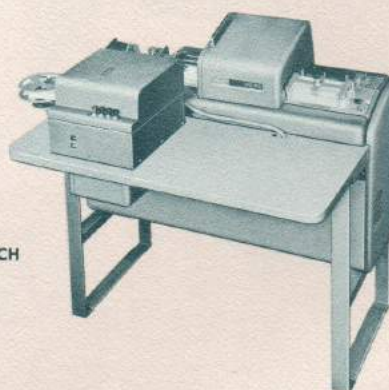
1011 PAPER TAPE READER



824 & 826 TYPEWRITER CARD PUNCH



46 & 47 TAPE TO CARD PUNCH



63 CARD-CONTROLLED TAPE PUNCH

Document Writing

Document writing takes in a number of functions that can result in typewritten documents, punched cards, and punched paper tape (5- or 8-track). Input to the system can be from IBM punched cards, a keyboard, an auxiliary-drum card, a program emitter, a 5- or 8-track punched paper tape.

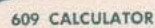
Document format is flexible and can be designed to accommodate the requirements of each application.



870 DOCUMENT WRITING SYSTEM

Calculating

Many routines allow automatic checking to prove the accuracy of calculations. For example, to check the punched result, an $A \times B$ calculation can be crossproofed against a $B \times A$ calculation during the same run.



A	×	B	÷	C	+	D	-	E	=	R
---	---	---	---	---	---	---	---	---	---	---

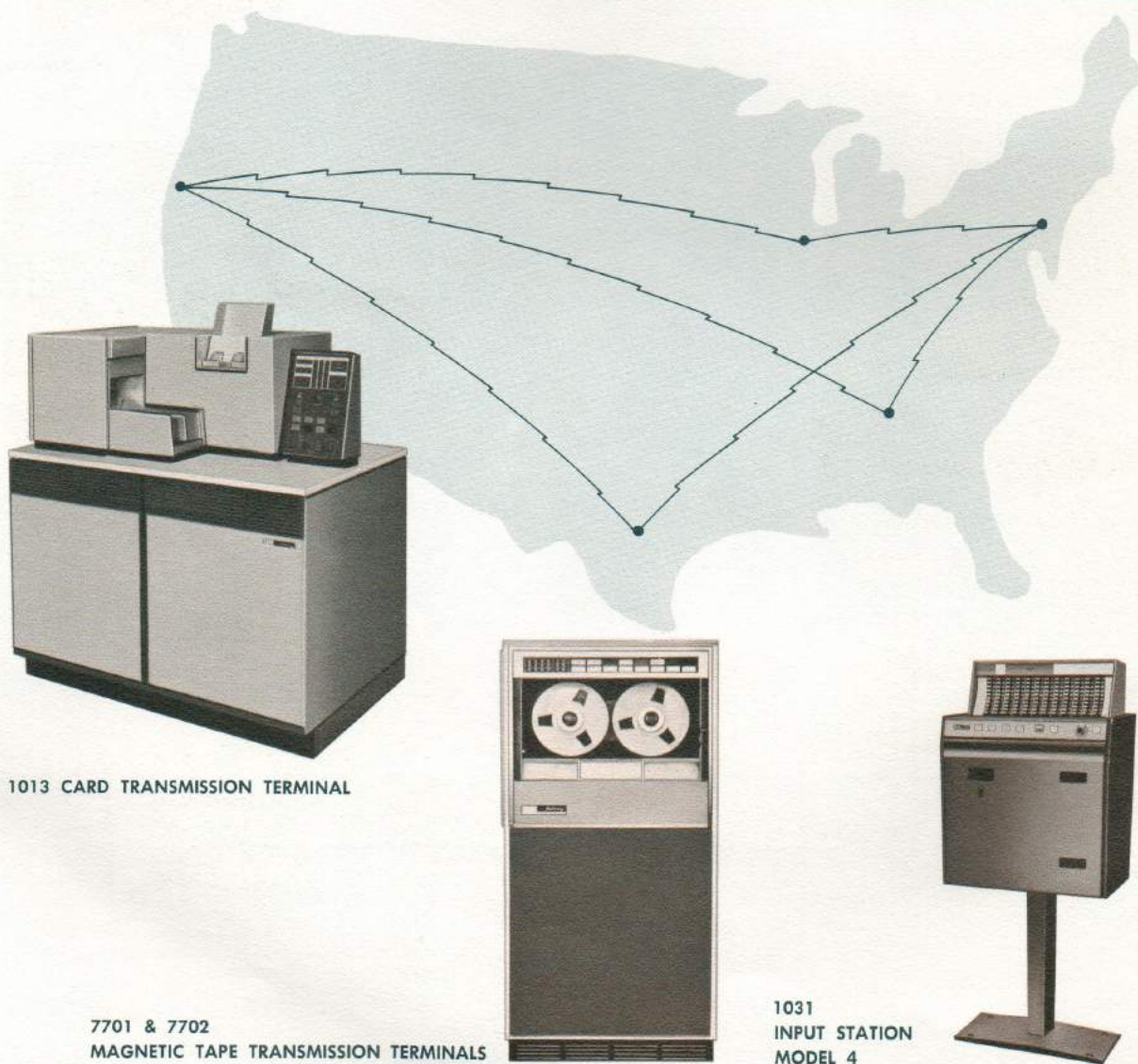
Data Communication

Data communication, with direct two-way communications facilities, ties together data processing centers and outlying offices, as well as areas within a plant or warehouse.

TELE-PROCESSING® systems open the way to direct, low-cost, rapid, and highly versatile data communication to provide the latest information with better control of operations. Such systems transmit data from a variety of inputs:

manual	magnetic tape
punched cards	punched paper tape

IBM TELE-PROCESSING systems are vital links that make possible centralized in-line data processing for decentralized facilities.

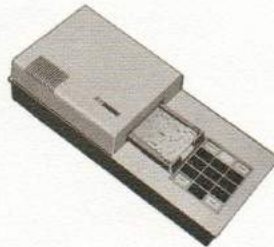




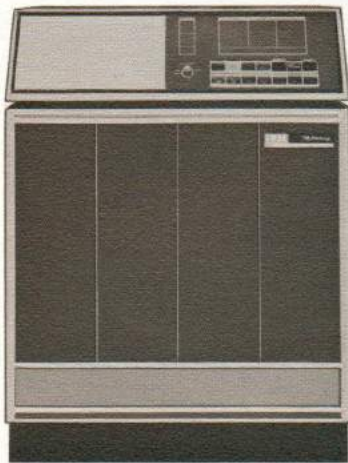
357 DATA COLLECTION SYSTEM



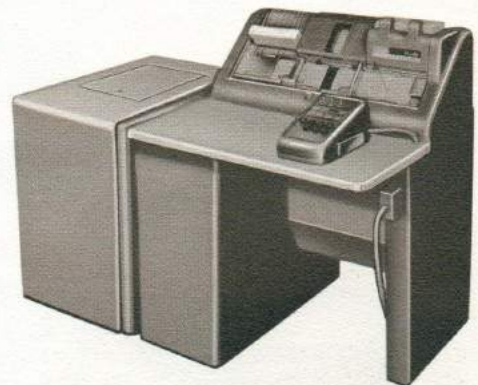
1060 DATA COMMUNICATIONS
SYSTEM UNITS



1001 DATA TRANSMISSION
TERMINAL



1009 DATA TRANSMISSION UNIT



65 & 66 DATA TRANSCIVERS



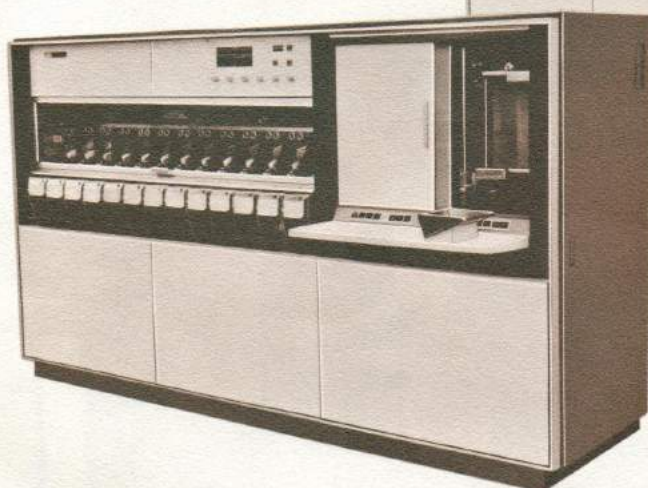
1050 DATA COMMUNICATIONS SYSTEM

Paper Document Processing

Paper document processing is the automatic interpreting and handling of printed cards and paper documents of mixed sizes. Ideal for banking applications — IBM systems meet standards set by the American Bankers Association — this function of IBM equipment will have far-reaching implications for every industry. No more manual sorting or listing. Now the paper document itself is read by the system for proving, sorting, computing, posting, or whatever processing is desired.

Optical-character sensing and magnetic-character sensing systems transfer printed data directly into IBM data processing systems. Here are the integrated systems that open the door to effective and rapid paper-document handling.

1418 OPTICAL CHARACTER READER



1428 ALPHAMERIC OPTICAL READER



1412 MAGNETIC CHARACTER READER &
1210 READER SORTER



1419 MAGNETIC CHARACTER READER &
1219 READER SORTER



1203 UNIT INSCRIBER



1230 OPTICAL MARK-SCORING READER



1201 PROOF INSCRIBER

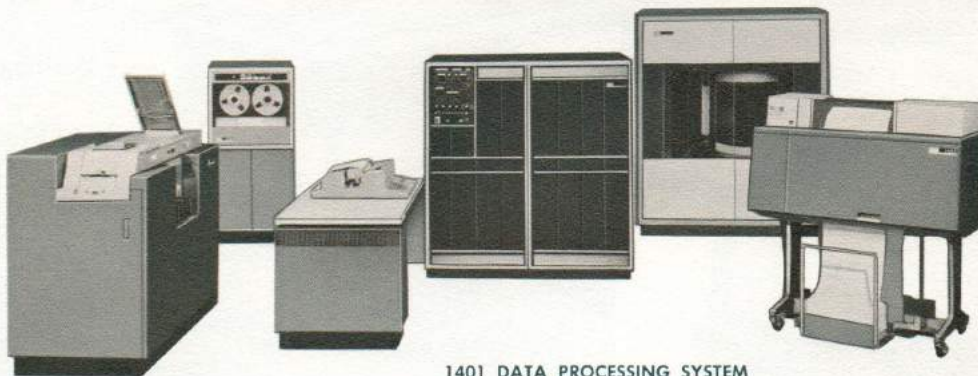
Data Processing

Data processing, from a machine standpoint, entails entering a complete set of instructions, as well as initial source data into the machine, to enable it to arrive at the completed final results or reports in one operation.

This type of data processing requires the programming of each step in the procedure — including the solution to all exceptions — before source data is processed. Through the use of cards, magnetic tapes, magnetic drums, electrostatic storage, and printing units, the machines are capable of high-speed input-output and internal logical ability. Such features permit accurate processing of large procedures and complex problems at high speed.

Stored programming is the function of entering or *loading* all instructions into the machine in the proper sequence to perform the steps necessary to complete a given application or problem from data *loaded* in a similar manner.

With small-scale systems, such as the 1401, IBM brings the features of the large-scale systems into the range of smaller businesses and applications. As needs arise, the system can be readily expanded.



1401 DATA PROCESSING SYSTEM



1440 DATA PROCESSING SYSTEM

In-Line Processing

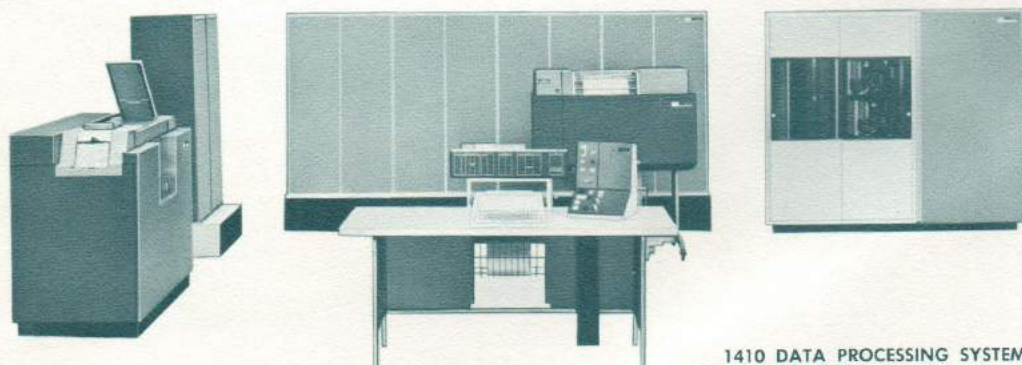
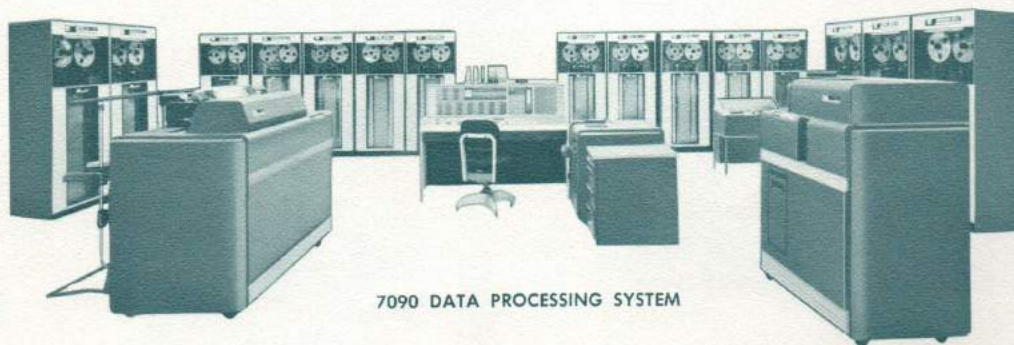
In-line processing means posting transactions, as they occur, to all ledger accounts affected. For example, processing a customer order changes the inventory status of all items ordered, and alters accounts-receivable and sales records, too. All these accounts can be updated at one time. Thus, they represent today's status, not yesterday's, last week's, or last month's.

A machine needs high-capacity storage so that all types of accounts can be included. In addition, each record of each account must be readily obtainable.

The advantages of stored programming and in-line processing are combined to handle problems ranging from payroll processing, through elaborate inventory and manufacturing controls, to complex scientific applications.

Data enters the system from magnetic tapes, punched tapes, punched cards, paper documents, manual inquiry stations, or information previously stored in the magnetic disks. Output results can be in any of these forms: printed, punched, typed, or magnetic tape.

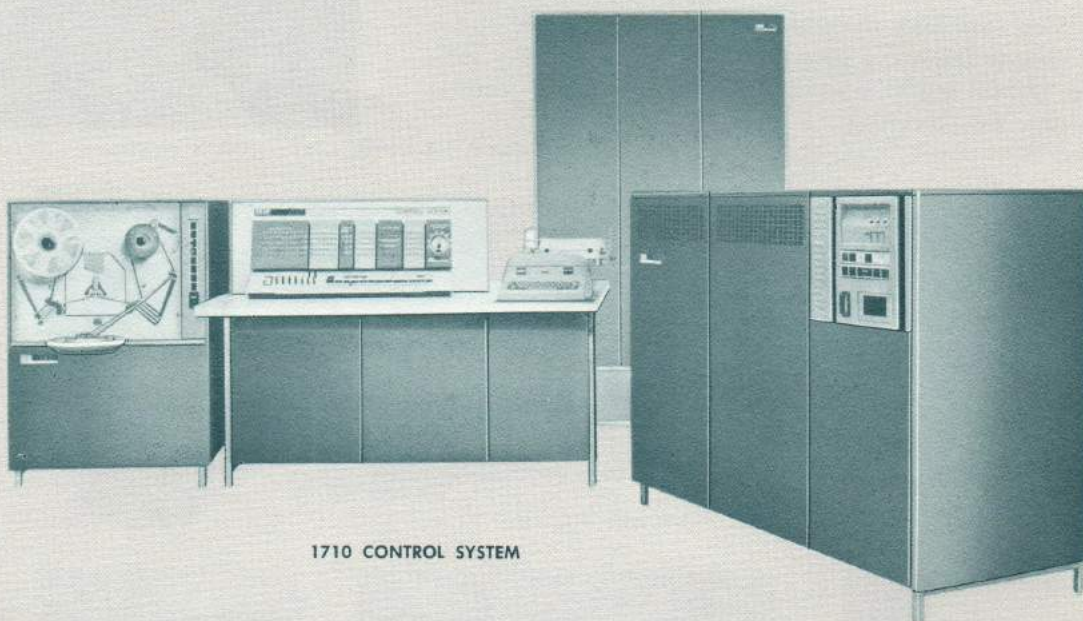
When combined with TELE-PROCESSING systems, these computers become integrated data processing centers serving any number of local and/or outlying offices with up-to-the-minute information and processing.



Industrial Control

Industrial control extends productivity and profit for industries seeking guidance in optimizing process operations. Now the experience and know-how of IBM are extended to regulation and control in petroleum, chemicals, steel, utilities, or similar continuous-processing or manufacturing industries.

The control system is the tie between data processing and the process instrumentation. It automatically converts analog data measured by these instruments into digital form for direct entry into the computer. The system analyzes the operation of a process and makes immediate recommendations on the steps needed to achieve peak performance.



1710 CONTROL SYSTEM

A Guide To IBM Data Processing Equipment

This guide, a concise directory on IBM equipment, lists major characteristics of the machines and systems. These will help you to spot readily the machines that perform the specific functions you require. For further information on any equipment ask your IBM salesman or write to:

International Business Machines Corporation
Data Processing Division
112 East Post Road
White Plains, New York

IBM Card Punches and Verifiers

	DATA ENTRY FROM:										ADDITIONAL FUNCTIONS				FEA- TURES	
	NUMERIC ONLY	ALPHAMERIC	KEYBOARD	PUNCHED CARD	PAPER TAPE	TYPEWRITER	OTHER MACHINE	MARK-SENSING	DUPICATING	GANGPUNCHING	REPRODUCING	INTERPRETING	HAS SELECTORS	SELF-CHECKING		
O Indicates optional feature	●		●													
* When reading 8-track tape		●	●	●					●	○				○		
† Summary punch for 402, 403, 419		●	●	●					●	○		●		○		
10 Card Punch — Manual feed.	●		●													
24 Card Punch — Card programmed.		●	●	●					●	○				○		
26 Printing Card Punch — Card programmed, self-interpreting.		●	●	●					●	○		●		○		
27 Card Proof Punch — Prepares adding-machine tape while punching cards.	●		●	●					●							
28 Printing Card Proof Punch — Similar to 27 with interpreting added.	●		●	●					●			●				
46 Tape-to-Card Punch — Punches cards from paper tape.		●			●				●				●	*		
47 Tape-to-Card Printing Punch — Similar to 46 with interpreting added.		●			●				●			●	●	*		
65 Data Transceiver — Receiver/transmitter for card-to-card wire trans- mission via telephone or telegraph lines when combined with proper signal unit.		●		●					●					●		
66 Data Transceiver — Similar to 65 with interpreting.		●		●					●			●		●		
526 Printing Summary Punch — Similar to 26 but capable of summary punching.		●	●	●			†		●	○		●				
824 Typewriter Card Punch — Punches cards simultaneously with typing of a document under program control.		●	●	●		●			●							
826 Typewriter Printing Card Punch — Similar to 824 with interpreting.		●	●	●		●			●			●				
56 Verifier — Checks cards, pinpoints errors in transcribing from source documents.		●	●	●												

○ Indicates optional feature

* When reading 8-track tape

† Summary punch for 402, 403, 419

IBM Interpreters, Tape Punches

	DATA ENTRY FROM:										ADDITIONAL FUNCTIONS				FEA- TURES	
	NUMERIC ONLY	ALPHAMERIC	KEYBOARD	PUNCHED CARD	PAPER TAPE	TYPEWRITER	OTHER MACHINE	MARK-SENSING	DUPPLICATING	GANGPUNCHING	REPRODUCING	INTERPRETING	HAS SELECTORS	SELF-CHECKING		
548 Interpreter — Interprets 60 columns per pass for two passes, printing on two lines. No punching.		●		●								●	●			
557 Alphabetic Interpreter — Prints on any of 25 lines up to 60 characters per pass. Can read from one punched card and can print on successive cards (optional feature).		●		●								●	●	●		
63 Card-Controlled Tape Punch — Punches 5-track tape from cards.		●		●									●			

Automatic Punches

	DATA ENTRY FROM:										ADDITIONAL FUNCTIONS				FEA- TURES
	NUMERIC ONLY	ALPHAMERIC	KEYBOARD	PUNCHED CARD	PAPER TAPE	TYPEWRITER	OTHER MACHINE	MARK-SENSING	DUPPLICATING	GANGPUNCHING	REPRODUCING	INTERPRETING	HAS SELECTORS	SELF-CHECKING	
O Indicates optional feature															
* Summary punch for 402, 403, 407, 408, 409, 419															
† Summary punch for 402, 403, 419															
514 Reproducing Punch.		●		●			● *	○		●	●		○	●	
519 Document-Originating Machine — Prints up to 8 numeric characters on end of card.		●		●			● *	○		●	●	●	●	●	
523 Gang Summary Punch.		●		●			● *			●			○		
526 Printing Summary Punch — Similar to 26 Card Punch but capable of summary punching.		●	●	●			● †		●	○		●			
534 Card Punch — Used with 108 Card Proving Machine, 870 Document Writing System, or independently.		●	●	●		●	●		●						
536 Printing Card Punch — Similar to 534 with interpreting, but not usable with 108. However, it is used with the 870 Document Writing System.		●	●	●		●	●		●			●			

○ Indicates optional feature

* Summary punch for 402, 403, 407, 408, 409, 419

† Summary punch for 402, 403, 419

IBM Machines for Arranging and Maintaining Documents

	FUNCTIONS									
	NUMERIC	ALPHABETIC	NONSTOP UNLOADING	SORTING	MERGING	MATCHING	SEQUENCE CHECKING	EDITING (CHECKING)	ACCUMULATING	SELECTING
										FILE SEARCHING
										PRINTING
82 Sorter — Model 1 sorts 650 cards per minute. Model 50 sorts 450 cards per minute.	●	●		●		○				○
83 Sorter — Sorts at rate of 1000 cards per minute.	●	●		●		○		●		○
84 Sorter — Sorts at rate of 2000 cards per minute.	●	●	●	●				●		●
85 Collator (Numeric) — Feeds 240 cards per minute at each of two feeds.	●	○			●	●	●	●		●
87 Collator (Alphabetic) — Feeds 240 cards per minute at each of two feeds.	●	●			●	●	●	●		●
88 Collator (Numeric) — Feeds 650 cards per minute at each of two feeds.	●	○	●		●	●	●	●		●
188 Collator — Feeds 650 cards per minute at each of two feeds.	●	●	●		●	●	●	●		●
101 Electronic Statistical Machine — Counts up to 60 classifications of cards in one pass. Accumulates and prints group totals and group identifications. Feeds 450 cards per minute.	●	●		●			●	●	●	●
108 Card Proving Machine — In addition to many accuracy checks on punched cards, the 108 can do high-speed alphabetic sorting, and checking of cross-footing at the rate of 1000 cards per minute.	●	●	●	●			●	●	●	●

○ Indicates optional feature

* Also punches summary cards on attached IBM 524 Punch

† Prints on attached IBM 867 Typewriter and Summary Punches on attached IBM 534 Punch

Accounting Machines

NO.	MACHINE	Multi-line Printing from the Same Card	Maximum Speeds: Lines Per	
			Detail Printing	Group Printing
402	Alphabetic Accounting Machine		100	150
402	Alphabetic Accounting Machine (Series 50)		50	50/100
403	Alphabetic Accounting Machine	●	100	150
403	Alphabetic Accounting Machine (Series 50)	●	50	50/100
419	Numeric Accounting Machine		150	150
407	Accounting Machine	●	150	150

DISTINCTIVE FEATURES

Typebars, some of which are numeric only, print on single sheets or automatically advanced continuous forms. Ability to add and subtract is standard; ability to perform simple multiplication is optional.

Same as 402 but operates at lower speeds.

Similar to the 402 except that it can: (1) print up to 3 lines from a single card, and (2) crossfoot three amounts from a single card.

Same as 403 but operates at lower speeds.

Similar to the 402 except that it is entirely numeric.

Prints from typewheels, which are alphameric in all 120 positions, on to single sheets or automatically advanced continuous forms. Can recognize debits and credits; can add, subtract and crossfoot amount fields; can store information for repetitive printing and read each card as often as desired. An optional Address-Writing Feature permits the 407 to print 9,000 three-line addresses per hour.

IBM Calculating Punches

IBM calculating punches not only add, subtract, and crossfoot but also multiply and divide. Figures to be used in calculation may be read from a punched card and the result punched into the same card. Or factors may be: (1) read from a number of punched cards; (2) emitted by a device within the machine; or (3) developed as a result of previous calculations, and the result of the final calculation may be punched into a following card or cards.

In addition to their individually enumerated characteristics, all IBM calculating punches listed can: (1) store results for use in subsequent steps; (2) round off the product to any desired decimal position; and (3) punch a result in one card while calculations are being performed on the next card.

NO.	MACHINE	Maximum Digits of Storage		Most Operations Performed on a Single Card		Maximum Digit Capacity of Arithmetic Counters	
		STD.	OPT.	STD.	OPT.	STD.	OPT.
602	Calculating Punch	72	96	12	---	30	40
602	Calculating Punch (Series 50)	48	---	6	---	22	---
609	Calculator (Model A-1) (Model B-1)	240 84	384 192	80 16	144 64	Limited only by available storage positions	

DISTINCTIVE FEATURES

Electro-mechanical. Card output depends upon the complexity of the problem and the number of digits involved. Calculating and punch units are combined in a single housing.

Solid-state (completely transistorized) electronic circuits — combined with superior programming ability, storage and speed — give the 609 big computer performance. Even complex problems are handled in a single pass at a rate of 200 cards per minute. The 609 is housed in a single cabinet. Card selection is provided by three non-stop-unloading stackers.

Document Writing Equipment

870 Document Writing System: Creates as many as two typewritten documents, two punched cards, and a punched paper tape from input that consists of manual keying, punched cards, or paper tape.

Tele-processing Equipment

65-66 Data Transceivers: Combined with a signal unit, transmits and receives punched-card data to and from another data transceiver via wire lines, radio, or microwave circuits.

357 Data Collection System: Transmits prepunched and variable information from many remote plant locations to a central point.

1001 Data Transmission Terminal: Transmits as many as 36 columns of fixed alphabetic and numeric data (at a reading rate of twelve columns per second) from a manually inserted punched card to one or more IBM 24 or 26 Card Punches over local or long-distance telephone lines. Variable data can be entered on a keyboard.

1009 Data Transmission Unit: Permits IBM data processing systems to transmit data over dial or private telephone circuits or high-speed telegraph circuits at the rate of 150 characters per second (250 and 300 over leased circuits only).

1013 Card Transmission Terminal: Transmits or receives data on punched cards over dial or private circuits at line speeds of 150, 250, or 300 characters per second. The 1013 can communicate with another 1013, 7701, 7702, or 1009.

1030 Data Collection System: Communicates (at 60 characters per second) with a central processor via a transmission control unit making a fully integrated on-line data collection system between plants or within one plant.

1050 Data Communications System: Provides rapid half-duplex communication between remote locations and a central data processing system. This multipurpose office-oriented system is available in a large range of configurations.

1060 Data Communications System: Combines rapid, accurate communication and a computer into a fully integrated data processing system. This means up-to-the-instant inquiry and file updating both within a financial institution and with its branch offices.

1448 Transmission Control Unit: An economical means of entering numeric and alphabetic data directly into an IBM data processing system from a network of half-duplex multipoint communication lines. This system directs and regulates the flow of data and provides compatibility among terminals and processing and exchange devices.

7701 Magnetic Tape Transmission Terminal: Provides direct transmission of magnetic-tape data over dial or private communication circuits at the rate of 150 characters per second.

7702 Magnetic Tape Transmission Terminal: Is functionally the same as the 7701 but makes possible rates of 250 or 300 characters per second over private lines.

7740 Communication Control System: Performs complete message control for a communication network including message routing and accounting logging, traffic reporting, error handling, and other procedures. The system also communicates directly with various data processing systems.

Paper Document Processing Equipment

803 Proof Machine: Simultaneously lists, sorts, and proves business documents.

1201 Proof Inserter: By magnetic-ink character sensing, lists, distributes, proves, inscribes, and endorses checks, deposit slips, batch control slips, and similar documents in one operation.

1202 Utility Inserter: Prints, like a typewriter, numerals and four special characters on paper documents in magnetic ink.

1203 Unit Inserter: Prints amounts and totals on paper tape and, at the same time, can inscribe documents with an amount field, process-control field, and an endorsement.

1210 Reader Sorter: Sorts as many as 950 magnetically inscribed documents a minute, depending upon the length of the document.

1219 Reader Sorter: Sorts as many as 1,600 magnetically inscribed documents a minute, depending upon the length of the document.

1230 Optical Mark Scoring Reader: Reads positional marks made by an ordinary lead pencil on an 8½" x 11" paper document. The 1230 is designed for scoring of objective tests in applications in schools, colleges, and business and government institutions.

1282 Optical Reader Card Punch: Optically reads machine-printed or hand-marked numeric characters from cards and punches the data into the same cards.

1412 Magnetic Character Reader: Reads magnetically inscribed data from card and paper documents in a 1401 or 1410. It can be used off-line for sorting.

1418 Optical Character Reader: Optically reads data from printed card or paper documents into a 1401.

1419 Magnetic Character Reader: Reads magnetically inscribed data from documents into the 1401 or 1410 (as many as 1,600 documents per minute). It can be used off-line for sorting.

1428 Alphameric Optical Reader: Optically reads upper-case alphabetic, numeric, and certain special characters from printed paper documents into a 1401.

Data Processing Systems

1240 Bank Processing System: A high-speed check-handling system specifically designed to perform demand-deposit accounting. The system also functions as a general purpose data processing system capable of handling applications such as loan accounting, savings accounting, and trust accounting.

1401 Data Processing System: A solid-state, high-speed system with the program flexibility of larger systems. The various 1401 system configurations meet the requirements for processing unit records, magnetic-tape and magnetic-disk records, and character-sensed documents.

1410 Data Processing System: An advanced solid-state system, basically similar to the 1401 but with features

that enable it to process the larger volumes of data that characterize the intermediate data-processing area.

1420 Bank Transit System: A high-speed check-handling system specially designed to perform bank-proof and completely automated transit applications for MICR (Magnetic Ink Character Recognition) documents. Features of the system provide increased processing speed, improved programming, and a high degree of operating efficiency.

1440 Data Processing System: Offers small businesses the functional capabilities of large data processing systems, but with speeds and costs in keeping with their needs and abilities. The 1440 fits into the picture where the volume of processing does not justify a large data-processing system. The 1440 processing methods are similar to those of the IBM 1401 Data Processing System.

1460 Data Processing System: Utilizes the widely accepted 1401 instruction logic, and improved processing speed, and the latest advances in solid-state electronics to provide a new, powerful, 1401-compatible, data processing system. The 1460 has been designed specifically as a 1401 growth system.

1620 Data Processing System: An economical stored-program technical computer with advantages of larger systems at lower cost. The 1620 is designed specifically for solving complex engineering, mathematical, physical, and management science problems. It is also used to support other systems.

700/7000 Data Processing Systems: Are intermediate-to large-scale general purpose computers. The various systems cover a wide range of computing and data-processing capabilities to meet the requirements of almost any large-volume business. They feature larger capacity, higher speeds, increased versatility, and additional, more powerful instructions.

Control System

1710 Control System: Simplifies collection and analysis of analog data without off-line conversion units. Data from analog measuring devices is transferred directly to the IBM 1620 Data Processing System. The 1710 is ideal for quality-control applications, process studies, and process optimization.

Form 224-8208-5



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